

In the Claims:

Please cancel claim 5.

REMARKS

Applicants wish to thank the Examiner for considering the present application. In response to the Office Action dated June 6, 2002, claims 1, 2 and 4-19 are pending in the application. Claims 7 and 14 are allowable if rewritten in independent form. Applicants respectfully request the Examiner for reconsideration.

Claim 5 stands rejected under 35 U.S.C. §112. Applicants have canceled claim 5 above.

Claims 1, 2, 4-6, 8-13, and 15-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over admitted prior art (Fig. 1) in view of *Vaughn* (5,703,531). Applicants respectfully traverse.

The present claims are directed to a traveling wave tube circuit assembly that has a pre-distortion network coupled to the traveling wave tube. The pre-distortion network is disposed in a high temperature zone. Claim 1 further recites an amplifier and a connecting cable coupling the amplifier to the pre-distortion network. Claim 12 recites both a high temperature zone and a low temperature zone. The high temperature zone has a pre-distortion network and a traveling wave tube coupled in series with the pre-distortion network. The low temperature zone has an RF amplifier. A connecting cable is used between the high temperature zone and the low temperature zone. Claim 19 is directed to a satellite that has a high temperature zone and a low temperature zone configured in a similar manner to that described in claim 12 above.

The admitted prior art is similar to the present invention in that amplifiers, a connecting cable and its traveling wave tube are shown. The admitted prior art in Fig. 2 both show amplifiers in a low temperature zone and a traveling wave tube in a high temperature zone. What is not shown between the two disclosures is that a pre-distortion network in the present invention is positioned within the high temperature zone. No teaching or suggestion is found in prior art Fig. 1 or the description thereof for placing the

pre-distortion network therein. As mentioned in the prior art of the application, one problem with such a design is that the RF connecting cable 20 must be accounted for when performing an RF alignment of the linearizer with the traveling wave tube amplifier 18. When the alignment is completed with a specific cable length, any changes to the cable length due to various design changes may change the characteristics of the circuit. Therefore, the alignment process needs to be repeated. This adds to the expense of performing design changes. The present invention reduces this need by moving the pre-distortion network to the high temperature portion and thus the cable length is taken out of the alignment process.

The *Vaughn* reference teaches a pre-distortion linearizer a method for employing uniplanar Magic T hybrids. The Examiner states, "Regarding to pre-distortion network operates a high temperature zone, applicant invention stated in page 6, lines 4-6, that pre-distortion network formed of robust components such as PIN diodes that operate in higher temperatures. Vaughn et al. disclose Schottky limiter diode and a PIN diode attenuator. Thus, it is inherently seen the pre-distortion linearizer of Vaughn et al. is capable of operating in a high temperature zone." Although the *Vaughn* reference describes PIN diode attenuators 114, no teaching or suggestion is described in the *Vaughn* reference for a high temperature zone and a low temperature zone. Thus, because no teaching or suggestion is provided for high temperature zone or low temperature zone, no teaching or suggestion is found for providing a pre-distortion network in a high temperature zone. Applicants respectfully believe that the Examiner is hindsight reconstruction to form the present invention. Just because PIN diodes are used does not mean that the *Vaughn* reference is used for high temperature applications. Applicants therefore request the Examiner for reconsideration of this rejection.

Because each of the dependent claims is a further limitation of their base independent claim and, because each of the independent claims is not taught or suggested in the references described above, applicants respectfully request the Examiner for reconsideration of the dependent claims as well.

In light of the above amendments and remarks, applicant submits that all rejections are now overcome. The application is now in condition for allowance and

expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

Please charge any fees required in the filing of this amendment to Deposit Account 50-0476.

Respectfully submitted,

ARTZ & ARTZ, P.C.

By: 

Kevin G. Mierzwa
Reg. No. 38,049
28333 Telegraph Road
Suite 250
Southfield, Michigan 48034
Phone: (248) 223-9500
Fax: (248) 223-9522

Date: 9/6/02

FAX COPY RECEIVED

SEP 6 2002

TECHNOLOGY CENTER 2800

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Please cancel claim 5.

5
(09/615,019)